

SECRETTSG/ESD/TEB-033/70
9 October 1970

MEMORANDUM FOR: Chief, Systems Development Branch, RED

ATTENTION :

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SUBJECT : TEB Comments on the Draft D.O. for an Optical Equipment
Test Kit

1. The Development Objective (D.O.) which TEB received on 1 October reads as though a potential contractor would have little more to do than select items from a few catalogs, perhaps make a few phone calls to locate a source of supply for the remainder and accomplish a packaging job. This may be true for some of the required devices. However, for a number of the optical parameters there are several possible testing procedures utilizing different instruments or devices. The question of testing procedure has not been raised in the D.O.. It is left completely up to the contractor. It is these questionable areas which led TEB to contract with [] for a handbook of optical testing procedures for direct viewing optical systems.

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2. It is our belief that if this D.O. is contracted for in the near future without coordination with our [] contract there will be considerable duplication of effort and possibly some incompatible results.

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3. [] is accomplishing a study of direct viewing optical system testing methods currently in use throughout industry and other testing facilities. The test methods found for each optical parameter are to be rated for adequacy for TEB use. The ones selected as most suitable are to be fully documented. The resulting handbook of optical test procedures for this class of instruments is to include but not be limited to these parameters: resolution, magnification, field of view, flatness of field, alignment, astigmatism, light transmission and light reflections. This contract is scheduled for completion in March, 1971.

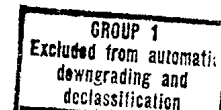
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4. The subject Test Kit should contain materials compatible with the test procedures being developed by means of the [] work. However, we hesitate to suggest holding up your program until our contract is fulfilled. Perhaps a cooperative arrangement between contractors should be seriously considered. This would occur automatically if by chance [] was the successful bidder for the Test Kit. We should strive to standardize the procedures and test instruments used throughout NPIC and even throughout the community.

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5. The Test Kit concept is excellent. ESD will want to procure several for TEB and EPB if the devices are compatible with the procedures we are developing.

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6. The following comments apply to details of the proposal D.O.:

a) The procurement of 2000 l/mm resolution targets may be difficult but they are needed. They will probably be the most expensive component of the kit.

b) We concur with the need for a reasonably priced auxiliary telescope. B&L's diopter telescope is now priced at \$1,000.

c) Please require both English and metric measuring scales. Optical components are traditionally specified in metric units and we should consider changing to metric for related measurements.

d) The statement regarding vibration measurement is not correct. Please confer with us on this item.

e) TEB is currently working on the orthogonality measuring problem for the 6x6 Mann Comparator. Please check with us on this item. A simple grid device is very crude and we may be developing something better.

f) Your request for a controllable light source is much too brief.

g) A manual of procedures should be mandatory, but this assumes that the procedures are acceptable.

h) Nowhere is the degree of accuracy of measurement specified. This is not a simple issue but it is necessary for realistic response from bidders. You may want them to initiate a statement of accuracy tolerance for each device proposed.

i) We suggest a more definitive statement regarding packaging of the kit. Also, leave a little extra space for future additions.

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Distribution:

Original - Addressee
1 - TEB File

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